"A Study of Multiple Intelligence levels of Students opting Physical Education in Higher Secondary Schools"

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ABSTRACT

A study was conducted to look intomultiple intelligence levels of students opting physical education in higher secondary schools.The main objectives were to assess the multiple intelligences of students opting physical education in higher secondary school and to generate gender wise and class wise multiple intelligence profiles. The sample consisted of total strength of 535 students from two classes i.e. 11 and 12 consisting 319 boys and 216 girls taken from 9 CBSE schools from Ujjain Division.Teele Inventory was used to assess the multiple intelligences levels of students.The investigator used different statistical techniques such as arithmetic mean, standard deviation, and t-test. The dominant intelligences exhibited by higher secondary school students are interpersonal, bodily-kinesthetic and linguistic.Four dominant intelligences shown by the boys are interpersonal, bodily-kinesthetic, linguistic and logical-mathematical while the girls showed high mean scores in interpersonal, bodily-kinesthetic, linguistic and musical.When intelligences are compared on class basis then it is observed that higher secondary school students belonging to class 11^{th} showed dominance in interpersonal, bodily kinesthetic, linguistic intelligence and spatial intelligence; while 12^{th} class students showed dominance in interpersonal,bodily kinesthetic, linguistic intelligence and logical-mathematical intelligence. Thus the first three dominant intelligences are the same in both the classes.

OUTLINE OF THE PROPOSED RESEARCH WORK

I. Title of the Research Work:

"A Study of Multiple Intelligence levels of Students opting Physical Education in Higher Secondary Schools"

II. Importance/ Rationale of Proposed Investigation:

The educators noticed that all students can learn and succeed but not in the same way (Teele, 2000). Besides it is known that students have different potentials, interests and skills unlike each other. Thus all of them learn in many different ways. So educators must provide learners different learning opportunities. This situation requires that the student should be known well and then MI ought to be known by the teachers and the students themselves properly. Outcomes of determining students' MI studies may be useful for students, curriculum and instruction. Knowledge of multiple intelligences may provide opportunities for authentic learning based on students' needs, interests and talents. Parent and community involvement in the school may increase. Students may demonstrate and share their strengths.

III. Scope of Proposed Investigation:

Physical Education teachers should know how to cater optimally to learners with different intelligence profiles and how to create a learning environment in which learners feel secure and relaxed. MI theory provides a road for accomplishing what good Physical Education teachers have always done: reach beyond the text to make varied chances available for students to learn and show evidence in learning. MI theory allows a framework for Physical Education teachers to reflect on their best teaching methods and to understand why these methods work. It also assists teachers expand their teaching repertoire to include a broader range of methods, materials, and techniques for reaching an ever-wider and more diverse range of learners. Outcomes of determining students' MI studies may be also useful aspects of curriculum and instruction. Results of kinds of these

studies may provide source to develop curricula and to form instructional designs in which individual differences, interests, and skills are regarded, students' multiple intelligences are allowed to develop and contemporary instructional methods are used.

IV Location:

a) Organization/Department where the work is to be done :
   CBSE higher secondary schools of Ujjain Division.
b) Geographical Area of Investigation:
   Western Madhya Pradesh- Ujjain Division (Mandsaur , Neemuch, Ratlam, Ujjain District)

V Research gaps identified in the proposed field of investigation:

There are too many studies on both theoretical basis of Multiple Intelligence theory and its application in foreign countries. These studies usually include the practices of the theory in higher secondary school education. The studies compare the effectiveness of traditional education activities and the ones that depend on the Multiple Intelligence Theory. But there have been no studies in India related to determine the Physical Education students' Multiple Intelligence in higher secondary school education.

VI Objective of the proposed study:

1. To prepare a profile of multiple intelligences of higher secondary students opting physical education.
2. To prepare gender based profile of multiple intelligences of higher secondary students opting physical education.
3. To prepare grade level based profile of multiple intelligences of higher secondary students opting physical education.
4. To study linguistic, logical-mathematical, spatial, musical, bodily kinesthetic, intrapersonal and interpersonal intelligence among higher secondary students on the basic of grade level and gender.

VII Review of Work done on the Subject:

Bas, Gokhan (2008) has worked on **"**Integrating Multiple Intelligences in EFL/ESL Classrooms." This article deals with the integration of the theory of Multiple Intelligences in EFL/ESL classrooms. In this study, after the theory of multiple intelligences was presented shortly, the integration of this theory into English classrooms. Intelligence types in MI Theory were discussed and some possible application ways of these intelligence types were explained. Some of the key stages in the application of MI Theory in EFL/ESL classrooms were stated and in the light of these stages, some in-class activities were held and discussed in practice.

McCellan, Joyce A. (2008) has worked on "Identifying the Multiple Intelligences of Your Students", One way of addressing individual differences among adult learners is to identify the Multiple Intelligences of the learner. Multiple Intelligences refers to the concept developed by Howard Gardner that challenges the traditional view of intelligence and explains the presence of nine different Multiple Intelligences. The purpose of this study was to develop a valid and reliable instrument for identifying these Multiple Intelligences. Items were developed by field testing with 168 college students, and responses from 874 community college students were factor analyzed to develop a 27-item indicator to identify Multiple Intelligences preferences of adult learners.

Yesil Rustu, Korkmaz, Ozagen (2010) has worked on **"**Reliability and Validity Analysis of the Multiple Intelligence Perception Scale", this study mainly aims to develop a scale to determine individual intelligence profiles based on self-perceptions. The study group consists of 925 students studying in various departments of the Faculty of Education at Ahi Evran University. A logical and statistical approach was adopted in scale development. Expert opinion was obtained for the content validity of the scale. Thus, the draft scale was written in the form of a 228-item five-point Likert-type rating scale. To determine its validity, (i) factor analysis, (ii) item-total correlations, and (iii) item discrimination power were calculated. In the light of the obtained data, it could be concluded that 143-item Multiple Intelligence Self-Perception Scale consisting of eight

subscales is a valid and reliable instrument used to determine individual intelligence profiles.

Lane, India F.(2010) "Professional Competencies in Health Sciences Education: From Multiple Intelligences to the Clinic Floor", Non-technical competencies identified as essential to the health professionals success include ethical behavior, interpersonal, self management, leadership, business, and thinking competencies. The literature regarding such diverse topics, and the literature regarding "professional success" is extensive and wide-ranging, crossing educational, psychological, business, medical and vocational fields of study. This review is designed to introduce ways of viewing nontechnical competence from the psychology of human capacity to current perspectives, initiatives and needs in practice. After an introduction to the tensions inherent in educating individuals for both biomedical competency and "bedside" or "cageside" manner, the paper presents a brief overview of the major lines of inquiry into intelligence theory and how theories of multiple intelligences can build a foundation for conceptualizing professional and life skills.

Almeida Leandro, Prieto Maria Dolores, Ferreira, Aristties, Bermejo, (2010) has worked on **"**Intelligence Assessment: Gardner Multiple Intelligence Theory as an Alternative" In the multiple intelligence framework, newer and more contextualized cognitive tasks are suggested as alternative to more traditional psychometric tests. The purpose of this article is to examine whether or not these two types of instruments converge into a general factor of cognitive performance. Thus, the Battery of General and Differential Aptitudes (BADyG: reasoning, memory, verbal aptitude, numerical aptitude and spatial aptitude) and a set of Gardner's multiple intelligence assessment tasks (linguistic, logical, visual/spatial, bodily-kinesthetic, naturalistic and musical intelligences) were administered to 294 children aged 5 to 7. The confirmatory factor analysis points out the absence of a common general factor considering both batteries, indicating instead the existence of two general factors, which gather the tests that encompass them. Also, these two general factors correspond to traditional and multiple intelligence assessments and show a statistically moderate correlation between them.

McFarlane, Donovan A.(2011), "Multiple Intelligences: The Most Effective Platform for Global 21st Century Educational and Instructional Methodologies", This paper examines the theory of Multiple Intelligences (MI) as the most viable and effective platform for 21st century educational and instructional methodologies based on the understanding of the value of diversity in today's classrooms and educational institutions, the unique qualities and characteristics of individual learners, the opportunities that arise from applying the ideas of multiple intelligences, the need for flexibility and adaptation in a global society, and the increasing demand for accountability at all levels of education. Several definitions of intelligence are presented and the author examines the theories of Sternberg and Goleman as supportive of the philosophy of multiple intelligences being the most effective for 21st century educational and curricular platform.

Ekici Summani (2011) has worked on "The Multiple levels of Physical Education and Sports School Students", the purpose of this research is to analyze the multiple intelligence levels of academies of physical education and sports students according to some demographic factors. To obtain data about multiple intelligence levels in the research, the multiple intelligence inventory, developed by Ozden (2003), was applied to a total of 1.199 students, of which 541 are girls and 658 are boys. For resulting evaluation of the data, the frequency in SPPS program was applied, for independent groups the t-test and one-way analysis of variance (ANOVA) was applied and to find the origin group of the differences, Scheffe-F test was applied. According to the multiple intelligence levels results between the sexes in the study, significant differences were found in the subscales of visual (p=0.000) and rhythmic intelligence (p=0.000).As for the results of the multiple intelligence levels between sections, the averages of multiple intelligences at interdepartmental levels are not statistically significant (p less than 0.05) although there occurred averages in favour of the Department of Physical Education Training in the results obtained from lower dimensions.

Goebel Kym (2012) has worked on **"**Using Multiple Intelligences to Bridge the Educational Poverty Gap", Students living in poverty have needs that are not being addressed in traditional classrooms. Students from "generational poverty" process

information differently (Payne 1996). Information is processed based on their living conditions and upbringing. Differentiating instruction using Howard Gardener's Multiple Intelligence theory transcends the rules that govern generational poverty and provide students with the tools necessary to succeed in the classroom. F.E. Gouws, education teacher at the University of South Africa, has employed a new outcome based education (OBE) program which implements Howard Gardener's theory of multiple intelligences to solve some of the education problems of disadvantaged youth.

VIII. Research methodology:

The purpose of the research is to investigate the different intelligences of students according to their preferences and how students' intelligences differ in terms of grade level and gender. Cross-sectional survey will be used in this study. In this cross-sectional study, it will be assumed that subjects' background is nearly the same in terms of some aspects. For example, most of the parents of these students will have high level of education and high socioeconomic status.

Because of the fact that the study will be a cross-sectional it will have some limitations. The initial limitation is related to the assumption of the similarity of students' cultural backgrounds. Although it will be assumed that the subjects have nearly the same background in terms of their parents' level of education and socioeconomic status, and their being at the same type of school, this assumption may not reflect all of the subjects' features.

For the present study the subjects are to be selected from CBSE higher secondary schools of Ujjain division. In the present study higher secondary school students belonging to class 11^{th} and 12^{th} those who opting Physical Education will be selected. CBSE higher secondary schools from Ujjain division will be selected randomly from the total population. Students of 11^{th} and 12^{th} class opting physical education subject will be taken from these schools. Size of the sample would be 600 (300 boys and 300 girls).

Table 1: Distribution of the Subjects by Grade Level and Gender

Class / Gender	11th Grade	12th Grade	Total
Male	150	150	300
Female	150	150	300
Total	300	300	600

- **Hypotheses to be tested:**

1. Multiple intelligences profile of higher secondary students opting physical education will not show a distinct trend.
2. Multiple intelligences profile of male and female higher secondary students opting physical education will not show a different trend.
3. Multiple intelligences of class XI and XII higher secondary students opting physical education will not show a different trend.
4. There is no significant main and interaction effect of gender and grade levels (class XI-class XII) on the higher secondary student's linguistic intelligence preferring physical education as optional subject.
5. There is no significant main and interaction effect of gender and grade levels (class XI-class XII) on the higher secondary student's logical-mathematical intelligence preferring physical education as optional subject.
6. There is no significant main and interaction effect of gender and grade levels (class XI-class XII) on the higher secondary student's spatial intelligence preferring physical education as optional subject.
7. There is no significant main and interaction effect of gender and grade levels (class XI-class XII) on the higher secondary student's bodily-kinesthetic intelligence preferring physical education as optional subject.
8. There is no significant main and interaction effect of gender and grade levels (class XI-class XII) on the higher secondary student's intrapersonal intelligence preferring physical education as optional subject.

9. There is no significant main and interaction effect of gender and grade levels (class XI-class XII) on the higher secondary student's interpersonal intelligence preferring physical education as optional subject.

- **Tools and Techniques of Research:**

  Teele Inventory for Multiple Intelligences: The Teele Inventory for Multiple Intelligences (TIMI) developed by Sue Teele in 1992 was specifically designed to examine the dominant intelligences of students from kindergarten through the twelfth grade, and acts as an indicator as to whether students in different grade levels possess different intelligences or not. TIMI is a forced choice pictorial inventory that contains 56 numbered pictures of panda bears representing characteristics of each of the seven intelligences and provides students twenty-eight opportunities to make their selections of two choices. The different intelligences are matched with one another and students for eight different times select each of the seven intelligences.

  In order to investigate whether the inventory is appropriate for the Indian culture and the students, researcher will make interviews with experts, a teacher, a psychological consultant and guidance teacher and a psychologist. In the interview, they will be asked whether the pictures in the inventory are appropriate for the Indian students.

- **Plan of Work:**

  Teele Inventory of Multiple Intelligences will be administered to the subjects and scoring will be done. The process will be according to the following plan.

  A. **Administration of Teele's Multiple Intelligences Inventory**: First of all, the aim of the study will be explained to the students. Then the inventory will be provided to the students having a pair of 28 panda pictures. Then, students will be asked to select one of the two pictures from each pairs that they like more. It will be said to students that there will not be right or wrong answers. The students will be asked to mark their preferences on the answer sheets. The instrument will be administered at the proper hours determined by the school management. The application will last for 25-30 minutes.

B. **Scoring the TIMI:** The transparency sheet will be placed over the responses on the answer sheet. Marks in the appropriate boxes below the answer sheet for each of the responses will be recorded. For example, if response one is either 1 or 3. A mark in either 1-Linguistic or 3-Spatial is placed. For number two the responses are either 4 or 5. Then all 28 responses will be marked like that. When it is finished, the marks for the responses in each of the seven intelligences will be tallied up. The maximum score of the inventory is eight. Based on the number of each, student's most dominant intelligences will be determined.

The collected data will be analyzed descriptively utilizing central tendency measure mean and standard deviation. The purpose of the research is to investigate the different intelligences of students according to their preferences and how students' intelligences differ in terms of grade level (11^{th} and 12^{th}) and gender. To analyze the effect of class and gender on multiple intelligences of higher secondary students opting physical education, 2x2 factorial design was formulated.

IX. Expected outcome of research:

The present study will reveal the varieties among higher secondary school students regarding their multiple abilities with reference to their grade and gender. The expected outcomes are:

1. Multiple intelligences of the students will get explored through the assessment.
2. The study will help to reveal the dominant intelligences of the students.
3. Students' multiple intelligences will show variety according to their grade levels.
4. Students will demonstrate their preferred intelligences according to their gender.
5. As all of the students who will be taken in the study would have opted Physical Education; the subject which may be said to relate directly with bodily kinesthetic intelligence. The scores of bodily kinesthetic intelligence will indicate that whether students actually have intelligence and interest in this area or they have opted Physical Education only for sake of marks as it is a scoring subject.

X. Tentative Chapterization:

There will be five chapters.

Chapter I: Introduction

Chapter II: Review of Related Literature

Chapter III: Design of the Study

Chapter IV: Data Analysis and Interpretation

Chapter V: Summary and Major Findings

XI. Bibliography

Best, J. W. (1986). Research education, New Delhi: Prentice Hall of India Pvt. Ltd.

Buch, M. B. (Ed.). (1987). Third Survey of Research in Education. New Delhi: NCERT

Buch, M. B. (Ed.). (1991). Fourth Survey of Research in Education. New Delhi: NCERT

Buch, M. B. (Ed.). (2000). Fifth Survey of Research in Education. New Delhi: NCERT

Gardner, H. (1993). Multiple Intelligences: Theory into practice. New York: Basic Books

Gardner, H. (1999). Intelligence Reframed: Multiple Intelligences for the 21st Century. New York: Basic Books.

Gardner, H. (2006). Multiple intelligences: New horizons in theory and practice. NewYork: Basic Books.

Gardner, Howard (2004). Frames of Mind: The Theory of Multiple Intelligences. NewYork: Basic books.

Garret, H. E. (1979). Statistics in Psychology and Education. Bombay: Vakils Feffer & Simons.

Goods, C. V. (1959). Dictionary of Education, New York: Mc Graw- Hill Book Company

Govt. of India (1992). National Policy of Education, MHRD, New Delhi.

Gronland, N. E. (1920). Measurement and Evaluation in Teaching. Macmillan Publishing Co., New York. Collier Macmillan Publishers, London.

Guilford, J. P. (1967). The Nature of Human Intelligence. New York: McGraw Hill

Mathur, S. S. (2001). Educational Psychlogy, Agra: Vinod Pustak Mandir.

Woolfolk, A. (2001) Educational Psychology, Boston, University Press: Allyn and Bacon.

Teele, S. (1992). Teele inventory of multiple intelligences. Redlands, CA.: Sue Teele & Associates.

Teele, S. (1994). The Relationship of Multiple Intelligences to the Instructional Process. *Dissertation Abstracts International, AAT9501918.* Retrieved from http://corpweb.igs.net/~cmorris/dissertations.php

Teele, S. (1996). Redesigning the Educational System to Enable All Students to Succeed. *NASSP Bulletin, 80*(583), 65-75.

Teele, S. (2000). Rainbows of Intelligence: Exploring How Students Learn. Thousand Oaks, CA: Sage.

Teele,S. (1995). The Multiple Intelligences School (Ed.B.Bradley) Citrograph Printing Redlands CA.

XII. Appendix (If any)

- **Research or Review Papers**
- **Questionnaire: TIMI (**Teele inventory of multiple intelligences)

Document Information

Analyzed document	Synopsis Rohit 02.docx (D79007966)
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Sources included in the report

W	URL: https://libguides.rcoc.edu/psychology/intelligence Fetched: 9/12/2020 11:24:00 AM	1
W	URL: https://books.google.com/books/about/Teele_Inventory_for_Multiple_Intelligenc.html ... Fetched: 9/12/2020 11:24:00 AM	1